



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/708,571	03/11/2004	Peng Lee	026018.50271	2570
28172	7590	02/14/2006	EXAMINER	
BUTLER, SNOW, O'MARA, STEVENS & CANNADA PLLC 6075 POPLAR AVENUE SUITE 500 MEMPHIS, TN 38119			JAGAN, MIRELLYS	
			ART UNIT	PAPER NUMBER
			2859	

DATE MAILED: 02/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/708,571	Applicant(s) LEE ET AL.	
	Examiner Mirellys Jagan	Art Unit 2859	AM

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 November 2005.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 and 42-62 is/are pending in the application.
- 4a) Of the above claim(s) 1-9, 11-25 and 42-59 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10, 26-30 and 60-62 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 November 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>11/28/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. Color photographs and color drawings are not accepted unless a petition filed under 37 CFR 1.84(a)(2) is granted. Any such petition must be accompanied by the appropriate fee set forth in 37 CFR 1.17(h), three sets of color drawings or color photographs, as appropriate, and, unless already present, an amendment to include the following language as the first paragraph of the brief description of the drawings section of the specification:

The patent or application file contains at least one drawing executed in color. Copies of this patent or patent application publication with color drawing(s) will be provided by the Office upon request and payment of the necessary fee.

Color photographs will be accepted if the conditions for accepting color drawings and black and white photographs have been satisfied. See 37 CFR 1.84(b)(2).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out

Art Unit: 2859

the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over the ASTM-C1060-90 standard titled "Standard Practice for Thermographic Inspection of Insulation Installations in Envelope Cavities of Frame Buildings" in view of the publication titled "100's of Tips on Saving Energy and Money at Home" (www.mississauga4sale.com/newsletter/energy_saving_tips.htm) by Argentino.

Referring to claim 10, ASTM-C1060-90 discloses a method of inspecting building components, the method comprising:

creating a temperature differential of greater than 10°F between the inside and the outside of the building and maintaining it for a period of time (at least 4 hrs);

obtaining temperature profiles of an exterior building wall;

obtaining temperature profiles of the interior of a pitched roof (attic);

obtaining temperature profiles of interior building components;

assessing each profile to detect a thermal anomaly (air leakage/poor insulation) indicative of a problem with the building components; and

reporting the thermal anomaly indicative of a problem to a designated entity (see sections 1.4; 4.1; 5.1; 9.23; 9.41; 10.24; 10.241; 10.2.4.4; X2.2; and X2.4).

ASTM-C1060-90 does not disclose the particular interior building components, obtaining temperature profiles of each electrical circuit in the building, and turning on substantially all light switches and exhaust blowers in the building.

Art Unit: 2859

Argentino discloses that energy audits are conducted in a residential building by using an infrared camera to inspect the interior building components for poor energy efficiency. An infrared camera obtains thermal images (temperature profiles) of the detected building components, and will show the presence of air infiltration or poor thermal insulation of the building. The interior building components that should be inspected include the building's electric wires and box, all ducts, and electrical outlets and switches because these are all sources of air infiltration or poor thermal insulation of the building that will affect the energy efficiency of the building (see "Insulation" on pages 2-3; "sources of Air Leaks in Your Home" on pages 3-4; and Ducts" on pages 7-8).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of ASTM-C1060-90 by obtaining temperature profiles of all of the electrical circuits and ducts when inspecting the interior components of the building, since Argentino teaches that these are sources of air infiltration that will affect the energy efficiency of the building

Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of ASTM-C1060-90 and Argentino by turning on substantially all light switches when testing the electric circuits and turning on substantially all exhaust blowers when testing the ducts in order to determine the location of any thermal anomaly, i.e. the current in the electrical circuits must be active to determine the thermal anomaly in the circuits, and air must be flowing through the ducts in order to determine if there is a thermal anomaly in the ducts.

Art Unit: 2859

5. Claims 26-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over ASTM-C1060-90 in view of Argentino and the publication titled “Infrared Inspection: Sample Home Inspection” by Boldstar.

ASTM-C1060-90 discloses a method of inspecting interior building components, the method comprising:

obtaining temperature profiles of interior building components;

assessing each profile to detect an anomaly (air leakage/poor insulation) indicative of a problem.

ASTM-C1060-90 does not disclose the interior building components including all of the electrical outlets, and assessing their profiles for an anomaly indicating an electrical problem, and turning on substantially all light switches and exhaust blowers in the building.

Argentino discloses that energy audits are conducted in a residential building by using an infrared camera to inspect the interior building components for poor energy efficiency. An infrared camera obtains thermal images (temperature profiles) of the detected building components, and will show the presence of air infiltration or poor thermal insulation of the building. The interior building components that should be inspected include the building’s electric wires and box, all ducts, and electrical outlets and switches because these are all sources of air infiltration or poor thermal insulation of the building that will affect the energy efficiency of the building (see “Insulation” on pages 2-3; “sources of Air Leaks in Your Home” on pages 3-4; and Ducts” on pages 7-8).

Boldstar discloses a method of inspecting interior building components that includes obtaining temperature profiles of electrical circuits in the building (electrical panel), and

Art Unit: 2859

assessing the thermal profiles for an anomaly indicative of an electrical problem such as overheating, circuit overload, or connection overheating (i.e., hot wire), wherein the profiles are recorded on a digital recording device (see images).

Referring to claim 26, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of ASTM-C1060-90 by obtaining temperature profiles of all of the electrical outlets and ducts when inspecting the interior components of the building, since Argentino teaches that these are sources of air infiltration that will affect the energy efficiency of the building. Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of ASTM-C1060-90 and Argentino by further assessing the profiles of the electrical outlets for an anomaly indicating an electrical problem, as taught by Boldstar, in order to determine if the circuits are overheating.

Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of ASTM-C1060-90, Argentino, and Boldstar above by turning on substantially all light switches when testing the electric circuits and turning on substantially all exhaust blowers when testing the ducts in order to determine the location of any thermal anomaly, i.e. the current in the electrical circuits must be active in order to determine a thermal anomaly in the circuits, and air must be flowing through the ducts in order to determine if there is a thermal anomaly in the ducts.

6. Claims 60-62 are rejected under 35 U.S.C. 103(a) as being unpatentable over ASTM-C1060-90, Argentino, and Boldstar as applied to claims 26-30 above, and further in view of the

Art Unit: 2859

publication titled “Infrared Thermography, indoor Electrical Applications” by Maverick [hereinafter Maverick].

ASTM-C1060-90 discloses a method having all of the limitations of claims 60-62, as stated in paragraph 5 above, except for the switches including dimmer switches/switch plates and assessing their profiles to determine if the switches are 30°F greater than surrounding wall temperature indicating an anomaly.

Maverick discloses that a temperature difference of at least 11°C (20°F) between phases for an electrical component is a critical fault that requires immediate attention.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of ASTM-C1060-90, Argentino, and Boldstar by further assessing an anomaly if the temperature difference of the circuits with ambient temperature, i.e., wall, are a temperature difference of at least 11°C since Maverick teaches that a temperature difference of greater than 11°C is a critical fault that requires immediate attention. Furthermore, a temperature difference of 30°F is considered to be the “optimum” value of the temperature range of Maverick that a person having ordinary skill in the art at the time the invention was made would have been able to determine using routine experimentation based on the desired accuracy and since it has been held that discovering an optimum value of a result-effective variable involves only routine skill in the art. See *In re Boesch*, 205 USPQ 215 (CCPA 1980). Lastly, the type of switches claimed by applicant, i.e., dimmer switches and switch plates, are considered to be the use of numerous and known alternate types of switches that a person having ordinary skill in the art at the time the invention was made would have been able to

Art Unit: 2859

provide using routine experimentation in order to provide an indication of a thermal anomaly as already suggested by ASTM-C1060-90, Argentino, Boldstar, and Maverick.

Response to Arguments

Applicant's arguments that the Examiner has failed to establish a prima facie case of obviousness because the cited art fails to disclose the element of "turning on substantially all light switches and substantially all exhaust blowers in said residential building", as claimed in claims 10 and 26, are not persuasive since, to establish a prima facie case of obviousness, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. In this case, the cited prior art teaches obtaining temperature profiles of all of the electrical outlets and ducts when inspecting the interior components of the building, and assessing the profiles of the electrical outlets for an anomaly indicating an electrical problem to determine if the circuits are overheating, wherein turning on substantially all light switches and substantially all exhaust blowers in the building when doing such tests is within the knowledge that is generally available to one of ordinary skill in the art.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


Art Unit: 2859

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mirellys Jagan whose telephone number is 571-272-2247. The examiner can normally be reached on Monday-Friday from 11AM to 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego Gutierrez can be reached on 571-272-2245. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Diego Gutierrez
Supervisory Patent Examiner
Technology Center 2800